

## **REVIEW COMMENTS**

**On**

### **Model Regulations for the Output of Specified Air Emissions from Smaller-Scale Electric Generation Resources**

**By**

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The Public Review Draft dated November 2001 does not mention biomass as a fuel source or technology type that can be used for electric generation. However, the document as written will have a huge negative impact on the use of biomass resources for power production and CHP, on future domestic development of the pulp and paper and forest products industries and on sustainable forestry. From a policy perspective, the issue of biomass used for power should be carefully considered. I assume that the impacts listed above are an unintended consequence of the fuel-blind approach of the Model Regulations.

On a quick examination of the standards for baseload generators it appears unlikely that any generation from woody biomass or agricultural residues, including standard and advanced gasification technology, would qualify. The unintended consequence is that in any state that adopted the proposed regulations, biomass would only be able to be used as boiler fuel for heating and process, but not for power. This in turn would mean that the only significant uses for waste wood in the forest products industries would be a small fraction of the waste stream being employed for dry kilns and paper industry process steam. The industry would have an accumulating waste stream with no market, thus creating a solid waste problem.

Industries that currently use biomass wastes for power would, under the Model Regulations, have no incentive to modernize their old, polluting power boilers, which are permitted, because new, less-polluting boilers would not be permitted.

Sustainable forestry requires a market for low-grade wood wastes, in the form of chipped cull wood. Forestry officials are looking for more markets for low-grade wood as a means for improving the vitality of the forest resource. If these residues cannot be used for power production, the only large markets for low-grade wood will be existing pulp and paper mills and existing biomass power plants. Shutting off the potential for new biomass power production will constrain state efforts to improve forest resources.

While the emissions goals of the model regulations are laudable, it seems to us that the emissions issue is only one of a number of important policy considerations relative to the use of biomass residues for energy. Unlike the non-combustion renewables, biomass is a combustion fuel.

Biomass has inherently higher emissions in a number of categories than does natural gas. The fuel-blind aspect of the Model Regulations forces biomass to compete with natural gas on an emissions basis, where it is disadvantaged, and ignores those considerations under which biomass is, from a policy perspective, more desirable than fossil fuels. These considerations include:

- Biomass as a renewable fuel, capable of being provided sustainably
- The climate change benefit of sustainably produced biomass energy as a net-zero CO<sub>2</sub> emitter
- Economic development advantages of biomass
  - Retention of energy dollars and wealth in the local economy
  - Local and regional job creation
  - Increased local and state tax revenues
- Support of the forest products industry
- Support of sustainable forest management and carbon sequestration

The regulation as written trumps all these positive aspects of biomass use with a restrictive, natural-gas based emissions standard.

While the Model Regulations are intended to apply to “smaller-scale electric generating resources,” all biomass power falls into this category because, unlike natural gas, there is no extant, cost-effective, large-scale biomass technology that meets the proposed standards. Biomass plants, because of the low density of the fuel, are limited in scale by feedstock transport distance to a natural cap of less than 100 MWe.

Another positive policy aspect of using forest and agricultural wastes for energy is their abundant supply linked to the commercial availability of mature biomass conversion technologies that have been installed under market economics for many years. For example, *Repowering the Midwest*, a 2001 report by the Environmental Law and Policy Center, put forth a Clean Energy Development Plan under which biomass technologies were shown to have the potential to provide 10.5% of the region’s electrical needs by 2020.

### **Recommendations:**

We fully support the explicit inclusion of biomass in the model regulations. We feel that the status of biomass in energy policy should be addressed on the merits. The policy discussion should recognize the unique status of biomass as a renewable combustion fuel with significant societal benefits. In this context, it makes sense to determine whether biomass should be encouraged or discouraged for power production, and then adjust the model regulations accordingly.

#### 1. Characterize the Biomass Power Technologies

Expand Appendix B, “Emissions Calculations,” to include the following biomass power technologies: biomass boilers with steam turbines (fixed grate, traveling grate, fluidized bed, etc.); product gas from biomass gasification in various sizes and from a variety of

woody and herbaceous feedstocks, used in: IC engines, diesel engines, microturbines, small-medium turbines, combined cycle plants, and fuel cells); co-firing biomass with coal; biogas from animal waste digesters used in engines, microturbines and fuel cells; landfill and municipal sewage methane used in engines, turbines and fuel cells.

2. Characterize Emissions Control Technologies

Revisit the biomass conversion technologies listed above and document the add-on emissions controls technologies that could feasibly and cost-effectively improve emissions characteristics.

3. Develop Policy for the Role of Biomass in Power Production and CHP

Based on the emissions characteristics of biomass technologies compared to the emissions standards of the current draft of the Model Regulations, and on the societal benefits of using biomass for power generation, develop a policy on the appropriate role for biomass in power production and CHP applications.

4. Adjust Model Regulations to Support Biomass Power Policy

Study ways in which the Model Regulations could be amended to reflect appropriate biomass power policy and adjust the regulations accordingly. Perhaps the best approach would be to create a special category for biomass baseload generators that sets standards for the four pollutant categories in each of the three phases. While this would violate the goal of a fuel-blind standard, it may be the best means to encourage appropriate biomass use for power in the context of responsible public policy.